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FUNDING SANITARY IMPROVEMENTS AS A MEANS OF INCREASING WATER CONSUMPTION¹

BY R. A. BUTLER AND F. C. JORDAN

When Moses, who appears to have been the first sanitarian of whom we have any authentic record, laid down a code for living and being clean, he fitted his laws to both the rich and the poor. He set out, as you will recall, very specific methods by which those persons who had become unclean could cleanse themselves. He specified no other germicide than fire and water, and he wrapped up the sanitary measures in a parcel of rites which might be compared to the red tape of contract laws of today.

But Moses did one thing that the sanitary engineers of today are not doing. He recognized a distinct division between the poor and the rich, and he provided a way by which the unfortunate, without worldly goods, could comply with the laws he established as well as the rich could meet their requirements. Moses said that if the unclean person was too poor to sacrifice a sheep or a goat on the altar as a part of the purging process, he might sacrifice a fowl. Just as in the present day, a sacrifice was necessary then to cleanliness. But unlike the present day, the sacrifice might be of two values, one for the rich and one for the poor.

In this day, however, there are not two prices for the water service necessary to sanitary disposal of sewage. Nor is there any considerable deviation in the price of bath tubs and plumbing. Each demands financial sacrifice, easy for the rich and prohibitively difficult for the poor. What Moses did in the way of making clean the poorer class, has largely been forgotten by sanitary engineers of today, who, in their zeal to give the general public what they know to be the best for it, have overlooked the inability of the poorer classes to comply with the sacrifices therein prescribed. This inability of many to contribute to the sanitary progress of all, should not be confused with ignorance or lack of interest in proper sanitation. We may not agree that all persons would rather be clean than unclean,

¹Read at the Richmond Convention, May 10, 1917.

but we must confess that every individual values his health, and the great majority value the health of the community as a whole.

Were it possible to have proper sanitation in every community without interfering with the pocketbooks of the people, sanitation would be a simple problem. But those who have long been familiar with the difficulties that rich municipalities have in such necessary steps as sewage disposal or the procuring of potable water, know that there is always a strong fight waged against necessary measures because of the investments involved. Too often we are inclined to lose all patience with this opposition. We accredit it to ignorance or indifference, regard it as miserly and hope for the day of enlightenment when all property owners will be willing to expend the money necessary to produce proper sanitary conditions.

If possible the engineer and the enlightened sanitary officer will ride roughshod over the financial opposition. He will regard the expenditure as a necessity and will rightly point to the vast returns on money so invested. This course may be well enough when a municipality pays the freight and the pro rata cost is so small that it involves no great sacrifice. But its repetition only meets with opposition of a more forceful character until the times comes, as it has in more than one city, when the money necessary for these improvements is not forthcoming and the improvements become impossible.

Opposition to public health measures is generally analyzed as due to ignorance. Perhaps it generally is. But there is a point where the public debt becomes a private hardship and one has only to hunt up the owner of a lot with a big sewer assessment against it to find a man who has been called on in the interest of cleanliness to sacrifice a sheep when his financial condition justifies the sacrifice of a fowl only. This situation becomes all the more common when the question involved is one of individual sanitation rather than municipal or community sanitation.

In every community in Indiana there are hundreds of citizens who would thoroughly appreciate the advantages of sanitary closets, but who are still tolerating open vaults on their premises. Bath tubs are luxuries they forego, not through lack of desire, but through necessity. These people by no means constitute all those who are living in unclean surroundings, but they form a class so large that their conversion to sanitary living would be a step toward community health which would almost solve the problem of the sanitary engineer and reduce opposition to a comparatively negligible quantity. Those

are the people whom Moses declared could sacrifice a fowl instead of a sheep. They are willing to sacrifice a fowl on the altar of health, but they have no sheep and the rigid law of the sanitary sacrifice is a sheep or no sacrifice.

Providing a sacrifice which is within their ability is the coming big problem of proper sanitation. It is a problem that has long been neglected, ignored, and little understood by the engineers and others who have, in spite of all opposition, forced their communities to healthy surroundings. Progress has been made in other fields that should be applied in the sanitary field. Distributors of luxury have evolved methods of coördinating the financial problem with their merchandise. Sellers of service have found ways by which the poorer purchaser could be accommodated as well as the rich, comforts have been brought within the reach of the small pocket-book as well as the large.

Today you may buy an automobile on a partial payment plan, that brings its luxury within reach of the moderately well-to-do. You may enjoy the benefits of electric lights and power, and pay for your equipment while you enjoy it. Gas is brought into your kitchen and a range sold to you on terms that you can meet out of a very small income. But you cannot have a sanitary toilet in your home until you have scraped together the cash with which to satisfy the plumber and the sewer digger.

Experience has taught the engineers and managers of water utilities that it is neither profitable nor practicable to develop large consumers of water at low rates faster than smaller consumers at higher rates. There is a certain point, varying with each utility, where it means a sacrifice of profits to deliver water in large quantities at a low rate. The proportion of manufacturing consumers using large amounts of water daily must be coördinated with the proportion of smaller consumers, who, by reason of the smaller amounts of water consumed, pay higher rates for their service. If their vital relationship is overlooked, the water utility will find itself with an enormous pumpage at a very slight profit, or no profit, wiping out the lucrative income from the smaller consumer by its efforts to meet the demands of the larger consumer. With this distinction, we are not now concerned further than to recognize its existence and suggest it as essential to water works sales promotion propaganda.

There are many methods of developing the larger water consumers. There is little or no problem of finance worrying the large

consumer. Whenever the utility can convince the large consumer that its service is more economical than his private water system, the large consumer will enroll among its patrons. Whether or not this is desirable business is left to the management of each utility to ascertain, in accordance with the peculiar conditions that exist in the utility's business.

Increasing the number of consumers of smaller amounts of water is the problem that confronts the water utilities of the United States today in their efforts to operate at a profit under rates that are generally fixed by regulatory bodies, often without the consent or approval of the utility. Analysis of the problem of obtaining this increased business generally reveals the lack of financial ability of the prospective consumer to make improvements as the greatest difficulty to be overcome. It is this lack of financial ability that must now be overcome.

Personal investigation of the territory reached by the water lines and the sanitary sewers, even when made perfunctorily, cannot fail to disclose financial inability as the main reason for the failure of these abutting property owners to connect their property with water service and sewers.

Investigation in Indianapolis revealed that the water utility was serving about 70 per cent of the number of homes and small business properties. Of the 30 per cent that lacked sanitary conveniences, fully two-thirds were within easy access of water lines and sewers, while the other third, or 10 per cent of the total, lacked either sewers or water mains, or both. This percentage, will, of course, vary in other cities, but as a broad and general rule, it seems possible of application. *Engineering Record*, March 3, 1917, page 365, says " . . . this 30 per cent figure holds good as an average throughout the state (Indiana) according to investigations of both the State Board of Health and the U. S. Public Health Service."

Thus, it will be seen that sanitary engineers and public health officers, bent on advancing sanitation, have in many instances completed surveys that may be used as fundamentals on which to base surveys for the new business plans of the water utility. As a rule, however, these surveys of engineers and health officers are open to one vital criticism. They have generally, erroneously, accepted the theory that lack of sanitary improvements was due to indifference to private and public health. On this theory they have insisted that only stringent laws and building codes would bring about proper sanitation.

The theory has been challenged. Investigation has done much to upset the popular belief and it is now set forth as a general rule that property with inadequate sanitary facilities is in nearly every instance owned by individuals who have nothing else or are so incumbered by the burden of land ownership that they are unable to make these improvements.

Hundreds of instances have been found where property owners were not only willing but anxious to provide either themselves or their tenants with sanitary conveniences. They have been prevented heretofore from making these improvements by heavy mortgages on their holdings, or the necessity of using the income from the property to defray the interest charges, expenses of living, or to meet the payments on other property which they were seeking to acquire. While they might realize that their income would be increased with the installation of sanitary conveniences they were unable to increase their incomes because of their inability to raise the cash necessary to install these conveniences.

Careful study of surveys made by health officers reveals in many instances a mistaken conception of the attitude of property owners toward sanitation. It is neither indifference nor prejudice that prevents the installation of bath tubs. It is sheer inability to get together at one time the money necessary to pay cash for plumbing, cash for fixtures, cash for sewerage, and cash in advance for water service. These prospective water users are good credit risks. They have shown their thrift in the purchase of their properties and they are able to qualify by the moral standard that financiers now say they consider most thoroughly in making loans. Yet no one has gone into the business of making it easy for them to care for their health. No one has offered to them the advantages now offered to the men of moderate means who would own a touring car. The opportunities of financing modern sanitary necessities have long been neglected.

The little home with its well water supply, its lack of sewers and its open vault must give way to water service, sanitary sewers, and sanitary closets. Some way must be found to finance these improvements without throwing too great a burden on these owners. Have not the distributors of automobiles pointed the way for the distribution of sanitation?

Today, if you wish, you may go to any auto dealer and purchase an auto by the payment in cash of half or less of the list price. A

funding company will supply the rest of the purchase price and so arrange the deferred payments that you may make one a month for a reasonable period. The auto is delivered to you under a lease and the title remains with the funding company until the last payment is made. Insurance, interest, and brokerage make this an attractive investment from the standpoint of the funding company, and the everlasting longing of the American purchaser for more luxury is the incentive that makes the business possible. Why not apply the same principle to sanitation? Why not make it possible for the man who owns a small property to have sanitary plumbing installed in his home and the cost thereof extended over a reasonable period?

Electric light companies are wiring homes for electricity on this theory. Gas companies are installing ranges on payments. They have the sales and the collection systems already in operation, and the addition of appliance accounts is simple and involves little cost. The manager of the People's Gas Company of Chicago recently asserted that one of the greatest agencies in the development of the gas manufacturer's field today was the partial payment plan of selling appliances. His company has carried more than 600,000 of these partial payment accounts on its books.

This same method of financing can and will be applied to water service and modern sanitary improvements in the near future. It is a problem that confronts water companies all over the country and it is a solution that means more service on their mains, the use of more water and the improvement of the health of whole communities. Whether or not water companies or municipally owned water works systems embark in the plumbing business directly or indirectly is a matter of small moment, and local conditions.

But even for the water utility that is restricted as to business by its charter or its ownership, there is no great difficulty in the partial payment plan. The automobile distributor has pointed out the way and the way is easy to adapt.

For example, in Indianapolis there is an outlet from the mains of the water company for every 7.5 persons in the city. The average size of a family is five. It follows that the business of the company is $33\frac{1}{3}$ per cent less than it might be. This one-third represents the field of prospects, and any merchandising expert will say that one-third of the whole of a city's population is a desirable field to cultivate.

With one-third the city as the field, there is necessary to the development of business, capital sufficient to equip the possible user

of water for its enjoyment. The installation desired in the class of homes in the city that now have no water service has been estimated at a physical cost of from \$100 to \$250, according to size and location. Taking the lowest figures as a basis, interest at 6 per cent for two years and a brokerage charge of 6 per cent could be added, and the installation made at a partial payment cost of \$4.92 a month for twenty-four months. To this should be added the cost of water, not exceeding \$1.00 a month, making in all a charge against the property of \$5.92 a month, or approximately 19.7 cents per day.

This should prove a fairly attractive proposition for the man with a small property whose concern is a safe water supply such as is furnished by water utilities. Other advantages such as baths, and toilets, will follow quickly on the heels of the first installations and their costs will be relatively small.

Brokerage charges should be no greater for the large installation than the small, if based on cost, but policy might dictate a sliding scale in order that first costs of installation be reduced.

The organization of a funding company with capacity to handle this business should not be difficult. Capital would, of course, demand an ample margin of security, but it is the opinion of legal authorities that this security could easily be provided.

Two methods have been suggested for the protection of the capital necessary to make a home sanitary. Indiana laws provide for a lien against property so improved to protect the capitalist who makes the improvement. The process, however, is not without its troublesome delays and risks, and unfortunately, it is possible for more than one lien to be filed against a property, thus making necessary at times the satisfaction of all liens in order to satisfy one.

A more applicable plan is the leasing of such fixtures as enter into the house to be improved. The cost of the fixtures in a modern home is not the major item of expense, but the fixtures are the necessary item to the enjoyment of sanitation. It is urged by plumbers and others, that no property owner who has once had plumbing fixtures installed, can afford to have them removed from a house. The removal is attended by such wreckage that the property would depreciate in value to a point far in excess of the cost of the fixtures and the labor necessary to sanitary plumbing. It is argued that an owner who has profited by better rentals or greater conveniences, would exhaust every resource rather than suffer the removal of plumbing fixtures which have only recently been installed. Conse-

quently, those who have investigated the credit problem maintain that a lease drawn to cover the fixtures installed in the house and affording legal right to enter and remove these fixtures in event of non-compliance with the terms of the lease, would in practically all instances be sufficient protection for capital, no matter how timid it might be.

It is also argued that the funding company would deal only with that class of persons who have demonstrated their thriftiness and integrity in the acquisition of property, and the moral risk would be of the highest class. However, it is to be presumed that some lessees would fail in performance and then, with a proper lease, the funding company would be in a position to take a lien on the labor done, or to remove the fixtures if it were deemed advisable.

Organization and operation of the funding company is possible at a very small overhead cost. The amount of capital actually necessary is dependent on the size of the field, but a consideration not to be overlooked is the fact that each month brings part of the capital back for re-investment and with each monthly payment the individual account becomes more secure.

Operating expenses of the funding company would consist of three branches, promotion of business, investigation of risks, and collection. The expenditure necessary for the promotion of business will depend on the method of operation finally adopted.

Investigation shows the great cost involved in installations such as are under construction is not the plumbing, but the sanitary sewer, the very thing that sanitation demands. This cost is not one of material but of labor, and probably no one plumber has any advantage over another in doing it. Plumbing is largely a matter of labor and in most communities is so restricted by ordinance that it must be made standard. Fixtures furnish the greatest opportunity for cost reduction by purchase in bulk, but there are other advantages to be considered in determining whether a funding company should work in conjunction with all local plumbers or take over plumbing as a part of its business.

In the automobile business it has been found more desirable to have the funding company separate from the sales agency, in name at least. Perhaps this would be more advisable in sanitary funding. Certain it is, that if the funding company were holding out to each plumber an opportunity to do work and collect his money immediately, even though the employer is not in a position to pay him cash,

every plumber in the community would become an enthusiastic salesman and the cost of sales would be greatly reduced for the funding company.

A desirable situation seems to involve the organization of a company with sufficient capital or financial backing to be able to say to the property owner, "Hire any plumber you choose and select any fixtures you desire. We will pay the entire cost and give you two years in which to repay us."

Then, with the plumbers of a city the enthusiastic boosters of the funding company, the examination of the risks is the next important operating detail. It has been estimated that this work can be accomplished at a minimum fee of five dollars a risk. The burden of showing title to the property is to be thrown on the applicant for a contract, and extensive investigation is not necessary. The up-to-date manager would be capable of judging the advisability of the contract and a single inspection of the property should be sufficient to satisfy him. The time element is not important and his work could be so distributed as to make it least expensive.

For convenience of collection the water rental and the partial payments should be payable at the same place, the lessee being billed for the total and the utility holding the funding company responsible for the water rental. A simple card system of bookkeeping and a stenographer supplied with suitable letter forms for prodding the delinquents should accomplish the collections without great expense.

Whenever it is possible for the small property owner to improve his property without shouldering a hardship in the form of a big initial expenditure, it will be easier to insist on sanitary improvements. The greatest argument against the condemnation of open vaults and unsafe wells will disappear. Laws designed to wipe out those breeders of disease will not be assailable on the grounds that they are confiscatory.

More widespread sanitary conditions mean increased use of water service. Without water service of the kind furnished by public utilities modern sanitation in a city is dependent on expensive private water installation. The extent to which sanitary conditions are obtained measures the extent of water service. The increase of one is invariably the increase of the other. For that well established reason, the object of this plan for increasing the number of water consumers along the lines of the utility is reached by the promotion of better sanitation, through the method of inducing the application of

water service to localities that are without water service and hence without sanitary methods of handling sewage.

There is no greater appeal to man than a plea for the preservation of his own health and that of his family. Nothing is more likely to prompt quick action than the forceful presentation of the dangers to health and life of unsanitary conditions. Fundamentally we all like to be clean. We appreciate and enjoy sanitary surroundings. We envy the convenience of sanitary bath-rooms and closets, and it is no exaggeration to say that if those of us who have these conveniences were suddenly confronted with the necessity of giving up electric lights, gas, or water service, we would in nearly every instance sacrifice the other two conveniences before we would sacrifice the safety and convenience of water service.

Building restrictions alone are not responsible for the fact that nearly every home erected in this age is fitted for sanitary sewers and water service. Back of the code is public sentiment demanding these conveniences as measures of health and safety. Why, then are they not universally used?

The answer is purely one of finances. Nothing is harder to obtain in the average city than sanitary plumbing and water service. No public convenience is harder for the little home-builder to obtain than water service. It is for the purpose of making it easy to obtain sanitary conditions in the home that the data herewith presented have been compiled. When the purchase of the equipment necessary to enjoy water service is made easier water service will be purchased by many more people than can now afford it; water utilities will profit by increased business, and the general health of the whole community will be bettered.

DISCUSSION

J. N. CHESTER: If the authors' idea can be practically worked out it will be a good thing. But there will be expense beyond what they have estimated, because there will be some bookkeeping and some inspection. Besides that, in many cities there are ordinances that prevent taking fixtures out after they are once put in; in other words, you cannot nail a thing to a house and then tear it down again. You cannot touch any of the piping in that house, especially if there is a mortgage on the house. That comes under the mortgage. So the speaker fears that some local difficulties would intervene in

many cities; but he hopes this is not so, and that the plan can be consistently carried out everywhere. In many places it will be a boon if it can be carried out.

The speaker has had some experience with a number of health departments, especially in southern plants. When yellow fever was prevalent at Shreveport, La., they had an ordinance that everybody within 250 feet of a sewer and water main must connect with them. There are similar ordinances in a number of other cities. Jefferson City, Mo., has such an ordinance, and still, within the limits of Jefferson City today there are 500 houses in a place with a population of 13,000 which are not connected.

J. WALTER ACKERMAN: In Auburn, N. Y., a few years ago they tried out a system of helping needy people build sidewalks by having the city do the work, and the contractor was paid by a bond issue for which the credit of the city was pledged, the property-owner paying it in ten yearly instalments as part of his taxes. That resulted so satisfactorily that this other plan the authors have mentioned has been taken up and an arrangement made whereby a man can have his plumbing put in by a plumber, the plumber is paid by the city, and bonds issued for that and then the proper amount is taxed on the property and is paid in ten yearly instalments.

WILLIAM LUSCOMBE: Notwithstanding the fact that, upon demand by the occupant of any property adjacent to any main of the Gary Heat, Light & Water Company, it stands ready at any time to tap its main and extend a service pipe to the property line at its own expense, it has experienced great difficulty in interesting many parties, due to what is openly charged by the property owner to be extortionate and unreasonably high prices of the plumbers. If some plan like that mentioned by the authors is feasible, whereby the water company or holding company makes installations and the property owner pays for them on the instalment plan, it will greatly increase the water company's business as well as improve the sanitary conditions. It is a common thing in Gary for plumbers to charge about \$400 to \$450 for a complement of fixtures and their installation. In many instances that seems prohibitive, because it is difficult for the property owner to get together that much cash for that purpose.

In order to improve the sanitary conditions, the city now expects

to pass an ordinance whereby it will be compulsory for a person who requests a permit to erect a building adjacent to an alley or street where water mains and sewer pipes are laid, to agree to install a sanitary water closet, otherwise no permit will be issued.

M. N. BAKER: Approaching this problem from a little different viewpoint may perhaps be helpful, such as the viewpoint of health, as the argument has the greatest force from that direction. If the city is properly administered a large part of this difficulty will disappear. If there are proper city ordinances and a competent health department to enforce them, the city will see that every house is supplied with pure water. If a well is polluted the city will see that it is closed and a pure water supply substituted. In the same way the city will see that if there is a sewer in the street the house must be connected with the sewer and the privy vault and cesspool abandoned.

The speaker is discussing this subject from twenty years' experience with a local board of health, where exactly that scheme was worked. He knows that it can be done, and the cases where financial aid is necessary can be reduced to very few. In talking the matter over in that board of health it was felt that there should be some fund available, like a revolving fund, that the municipality itself might provide. In some cases a private organization or individuals might provide means whereby a few difficult cases could be handled. There are many cities where, for one reason or another, the public health administration is not up to the standard, but where things can be carried through in the way outlined, as was done in Montclair, N. J., there is no difficulty.

If the municipality is warranted in providing sidewalks, street pavements and other improvements on the instalment plan, certainly as a matter of municipal expediency it should also see that people who are unable to pay out of hand shall nevertheless be provided with pure water and all necessary sanitary conveniences. It is necessary to bear in mind, however, what is and what is not essential to the public health and be governed accordingly.

If these needs have to be financed in some way, it would be better for the water company to do it than to introduce a second or intermediate agency, that is out for all the money it can make. Any one who has tried to induce people to make water or sewer connections against their wishes knows that one of their most troublesome arguments is that they are being forced to act for the private profit of

some one else. Under municipal ownership, all that disappears. Therefore, the matter should be looked at primarily from the viewpoints of public health and of duty to the city. If that be impossible owing to peculiar local conditions or city backwardness, then of course some other scheme should be brought forward. The water company, if there is one, rather than a bonding company, might far better undertake it. A bonding company may be the last resort if there is no other way of achieving the desired end.

M. L. WORRELL: In the city of Meridian, Miss., the almost ideal conditions mentioned by Mr. Baker prevail. When a community or locality is so built up as to make a sanitary sewer necessary it is promptly laid. Should the authorities fail to lay it without a petition, it will be laid on the petition of just one owner, or the city can be compelled by somebody who owns realty affected yet does not live there, to lay it. Then when the city lays the sanitary sewer it becomes necessary for the water department to parallel it with a water main. If any property owner along that line of sewer fails to connect his property with the sewer, the city does it by contract with plumbers, and he may pay for it spot cash when the work is done, or pay for it in annual instalments as a tax levy. That 150-foot law prevails down there, and it is unlikely there are any houses within reachable distance of sewers that are not now connected. The city even installs water closets under certain conditions.

C. D. BROWN: This question comes down to this point, that if you are going to undertake to put a bath and closet in a man's house, you may eventually have to build the whole house for him. It will be better for water works companies to do one thing and do it well, to furnish a good quality of water at a low rate, and carry out the idea of efficiency in water works operation, rather than enter into the sanitary arrangements of house construction, which is a matter which should rest entirely with the Board of Health. In Walkerville, Ont., there is not one house that is not supplied with city water, and every house is furnished with sanitary arrangements. The Board of Health attends to that.

A. F. KIRSTEIN: During the first year the speaker was connected with the Water Department of Rahway an application was made for an extension into some outlying territory. The agent persuaded

the Water Board that there would be fifty houses put in within two years. That was eight years ago and there are seven houses there now. Since then the board has had several other companies making similar requests, and it has adopted the following arrangements: The size of the pipe is decided by the Board. The land company pays the entire cost of laying the pipe. The Board collects all the water bills and refunds to the land companies semi-annually the amount collected until they get their money back; but in no case will the Board allow that arrangement to run over seven years; whatever is not collected in seven years the companies lose.

W. S. PATTON: There is another question somewhat akin to the one under discussion. For instance, a land company is laying out a subdivision outside the corporate limits of the city and some little distance from the water mains and it wishes water piped to its subdivision for residence use only and at as small expense as possible. As it wants the water for the purpose of facilitating the sale of lots, it would not be willing to stand the expense or pay the interest on a 6-inch cast iron main, therefore it generally asks for a 2-inch wrought iron pipe to be laid to its place and may be one or two streets piped. This is temporary construction. If the proposition is a success, the land is generally taken into the corporate limits of the city and water mains and fire hydrants are ordered in by the city. This necessitates the digging up of the wrought iron pipe or abandoning it, and either way it is a loss if the water company has borne the expense of putting it in. What is the fairest arrangement that can be made between the land company and the water company? Should the water company bear the entire expense of the first construction work or should the land company bear this? Or should each of them bear half of the expense? Or should the water company stand any of the expense? Since the pipe line is laid for the purpose of developing the property and since the pipe so laid will have to be abandoned after the property is developed should not the land company be required to supply the capital to construct the pipe lines and the water company be the owner?

The speaker's companies have made a number of extensions of this kind for the purpose of enabling land companies to develop their propositions, using 2-inch pipe and smaller sizes. The land companies have been required to supply the capital for the construction and the water companies have turned over to them the water rents

received from their subdivisions until the entire amount has been repaid. This hardly seems a square deal for the water companies because by the time the receipts from the water rents have paid for the investment, the city has ordered fire hydrants and cast iron mains laid in the streets.

FRANK C. KIMBALL: There is one point in the paper that has been overlooked to some extent. Considering that the scheme is one to load up water mains and get business, and looking at it from that point of view particularly in the interest of the private companies, although applicable to a municipal plant as well, the department or company should be willing for the purpose of obtaining that additional business, which it would not otherwise perhaps get, to incur some risk of loss on the investment of the additional money in these connections and fixtures. It has been suggested that the moral risk in a transaction of this kind is small, that people want water and they want these fixtures after they become accustomed to them; and while it may be that laws could not be drawn which would be enforceable to the extent of taking out the fixtures if not paid for, still there are very few people after all, especially amongst those who live in their own houses, with whom there would be any difficulty along these lines. While under the suggested arrangement the parent company does not furnish the money, or if it does, perhaps, it is done in the name of another company independent of it or of the Department, nevertheless it is back of the business and has to stand the risk. So that it is purely a business proposition, leaving out all considerations of health. It is a scheme that would be, if properly worked out, well worth trying, the only risk worthy of consideration being bad bills, and these probably not amounting to anything as compared with the enhanced returns to be obtained.